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March 19, 2004

Johnny Pappas, Sr. Environmental Engineer
Plateau Mining Corporation
P.O. Box 30
Helper, Utah 84526-0030

Re: The Division's Findings on Highwall Retention at the Lion Deck, Corner Canyon and Mudwater Canyon Portal Areas, Plateau Mining Corporation, Star Point Mine, C/007/006, Task ID #1768, Outgoing File

Dear Mr. Pappas:

In a conversation that you had with Wayne Western on February 26, 2004, you requested that the Division provide you with the findings that the Division made on highwall remnants that will be retained at the Star Point Mine. The following information should address your concerns.

Highwall Remnant Retention at the Lion Deck Area:

On February 14, 2002, Plateau Mining Corporation submitted a revised reclamation plan for the Lion Deck area because of the availability of improved topographic maps and changes to the reclamation plan for the conveyor belt access road. The revised reclamation plan for the Lion Deck area called for concave slopes to replace the approved straight postmining slopes. The concave design allowed for increased slope heights without decreased stability.

The higher postmining slopes eliminated or reduced the highwalls scheduled to remain after reclamation. However, some highwall remnants would remain.

R645-301-553.650 required the Division to make specific findings in writings before approval of highwall remnant retention. The Division stated the findings in Technical Analysis AM02B-2, dated July 22, 2002 and a summary of the finds is as follows:

When the Division evaluated the reclamation plan, they found that the regulations conflicted because:

- R645-301-553.120, Eliminate all highwalls with the exception of pre-SMCRA highwalls at sites where lack of reasonably available fill prevents total reclamation. Volume calculations for the Star Point Mine showed that there is enough fill material for total highwall elimination.
- R645-301-553.130, Postmining slopes will not exceed the angle of repose and the slopes must have a safety factor of 1.3 or greater. In order to achieve a safety factor of 1.3 some of the slopes used to reclaim highwalls would have to extend on to County Road 290. The reclaimed slopes would block the road.
- R645-301-553.150, The reclaimed site must support the approved postmining land use that included keeping County Road 290 open. Therefore, the toe of the reclaimed slopes cannot extend onto the right of way for County Road 290.

The highwalls were constructed pre-SMCRA so that the limitations of eliminating the highwall remnants and keeping County Road 290 open existed at the time of the initial permit. County Road 290 is in a steep canyon with many cliffs so moving the road is not possible. The only options the Division had during the initial permit process was to deny the permit or require road closure at reclamation.

When the Division first permitted the Star Point Mine, they examined those issues. Closing County Road 290 was not possible because neither the Division nor the applicant had the authority to close the road and the county insisted that the road to remain open. Because the postmining slopes would be next to County Road 290, the main concern was public safety. Therefore, the Division required the Permittee to construct slopes that had a safety factor of 1.3.

The revised reclamation plan called for more highwall elimination or reduction due to higher postmining slopes. The concave design allowed increased slope heights without decreased stability. Because of those advantages over the existing plan, the Division approved the amendment.

Minimum Safety Factor for Highwall Remnants at the Lion Deck Portal Area:

The slope stability calculations for the Lion Deck area are in Exhibit 553.130a of the mining and reclamation plan. In those calculations, PMC demonstrated that the reclaimed slopes would have a safety factor of 1.3.

The slope stability calculations do not cover all the reclaimed highwall slopes. R645-301-553.530 allows alternative methods for determining slope stability for highwall remnants. In the Technical Analysis dated July 22, 2002, the Division approved PMC to backfill slopes to a 2H: 1V grade with the upper sections of the slopes being at 1.8H: 1V. The Division has found slopes with that design are stable.

Both PMC and the Division assumed the highwall remnant designs stable because the remnants are similar to the stable natural cliffs and bedrock outcrops in the area. Therefore, the Division concluded that allowing highwall remnants to remain is not a hazard to the public or the environment.

Why Not All of Available Fill Material Was Used to Eliminate More of the Highwall Remnants at the Lion Deck Portal Area:

R645-301-553.600, All highwalls must be eliminated with the exception of pre-SMCRA highwalls at site where there is not enough fill to complete reclamation. There is abundant fill material at the site. As mentioned earlier, the regulatory requirement to eliminate highwalls whenever there is available fill material conflicts with leaving County Road 290 open and the stability requirements.

Why the Highwall Remnants Will Not be a Danger to the Public or the Environment at the Lion Deck Portal Area:

The highwall remnants will not be a danger to the public or the environment because:

- The reclaimed slopes have a safety factor of 1.3.
- The highwall remnants are in solid bedrock and are a safe.
- PMC used roughening techniques such as pocking to minimize erosion until vegetation is established.
- PMC seeded the slopes so that vegetation would stabilize the soils.

Why Some As-Built Slopes Expose More of the Highwalls than Anticipated:

PMC must address this issue. Mr. Pappas did state to Mr. Western on February 26, 2004 that a mistake was made but the effects were minimal.

Highwall Retention at Mudwater Canyon and Corner Canyon:

PMC received the annual Earth Day award in 2001 for the innovative technique they used to reclaim the pre-SMCRA portals at Mudwater Canyon and Corner Canyon. The miners at both sites constructed the portals as breakouts. The only access for mechanized equipment is through the mine. Therefore, type and size of equipment that can reach a site is limited.

The traditional way to reclaim a remote breakout is to use small earthmoving equipment to reclaim the area around the portal, remove the equipment and then push fill out the portal. That technique prevented reclamation of the highwalls because the miners could not place material above the portals.

PMC used innovative techniques to reclaim Mudwater Canyon and Corner Canyon. PMC constructed a log fence above each portal, placed backfill material

behind the log fences and then collapsed the log fences. The backfill material slide down and covered the highwalls ten to fifteen feet above the portals. PMC did not eliminate all the highwalls but the highwall remnants that remained were smaller than at comparable sites.

The factors that prevented the elimination of highwalls at Mudwater Canyon and Corner Canyon are as follows:

- The portals are on slopes that are at or near the angle of repose. Such slopes have safety factors of 1.0, and R645-301-553.100 requires that reclaimed slopes have a safety factor of 1.3. Eliminating the highwalls would require restoring the site to the original configuration. At the original configuration, the slopes would not meet the safety factor requirements.
- The limitations PMC faced transporting equipment through the mine. While no regulation allows for highwall retention due to equipment limitation the Division recognizes those limitations when they evaluated the reclamation plan for pre-SMCRA sites.
- Much of the fill material at the sites was lost during construction. Therefore, the amount of available fill was limited.
- PMC seeded the sites so that vegetation would stabilize the soils. During annual inspections of the sites, the Division found that the vegetation was adequate to prevent erosion. The Division considers those sites environmentally stable.

Since the sites are in remote locations therefore, only a small number of people will visit the area. While the highwalls are a potential hazard, they are similar to natural cliffs in the areas. The Division does not consider the highwalls to be a significant public hazard.

I hope that you find this information helpful. If you have any questions, please call me at (801) 538-5268 or Wayne Western at (801) 538-5263.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor